The Rapid Response of William & Mary's School of Education to Support Preservice Teachers and Equitably Mentor Elementary Learners Online in a Culture of an International Pandemic

MEREDITH W. KIER AND KELLEY S. CLARK
William & Mary, USA
mwkier@wm.edu
ksclark@wm.edu

When the world abruptly halted in the midst of the COVID-19 crisis, stakeholders of K-12 education sought ways to directly serve teachers, parents, and children socially, emotionally, and academically "at a distance." Elementary preservice teachers (PSTs) immediately experienced the direct and indirect impacts of the crisis as they were required to leave teaching internships needed for graduation and teacher licensing. This paper puts forth the rapid conceptualization and implementation of a Virtual Tutoring Program by PSTs and teacher educators who used technology to support learners in critical need at a local elementary school. We describe our problems of practice, the process of collaboratively designing the program, key strategies for implementation, and early results reported from teacher candidates that provide implications for teacher educators.

CHALLENGE

In the wake of school closures due to the COVID-19 crisis, educational stakeholders have banded together to find ways to serve students across the educational pipeline through online teaching. Researchers have identified challenges to online instruction of K-12 students, largely from the lens of equity. Online schooling places students living in poverty with limited access to technology and guidance at a disadvantage to wealthier students who have the resources and guidance at home to access academic content virtually (Glass & Welner, 2011). Thus, targeted emphasis must be placed on schools with disadvantaged populations to identify ways to support students during this time, as academic achievement gaps have the potential to be exacerbated (Archambault et al., 2010). Additionally, with in-person student teaching experiences being abruptly cut short, teacher educators are challenged to find supplemental opportunities for teacher candidates to interact with students. This paper describes the combined efforts of teacher educators and preservice teachers (PSTs) who used technology to address these challenges through the design and implementation of a Virtual Tutoring Program (VTP) to serve students in a high-needs school context.

REVIEW OF LITERATURE

We drew from the expertise of scholars who have advocated for virtual schooling to be equitable for students in synchronous online environments, as well as from research-based practices recommended for academic tutoring. It is important that online facilitators/tutors monitor student progress in a variety of ways and maintain communication with other teachers and family members regarding specific accommodations to meet the needs of learners (National Standards for Quality in Online Teaching; NSQ, 2019). Additionally, scheduling and the purpose of online teaching need to be made explicit for children and their families (NSQ). When tutoring through different technologies, facilitators must flexibly adapt to the affordances of the technological platform(s) being used and facilitate a warm, compassionate, and interactive experience for learners (Repetto et al., 2010). Connection and presence in online instruction are particularly pertinent to learners feeling dissociated from face-to-face interactions, and can be mediated in online spaces by facilitators through the use of visuals, pictures, and dialogue (Brown et al., 2016; Young & Bruce, 2011). Further, learners demonstrate engagement when they are able to make sense of new ideas through discussion and receive immediate feedback from facilitators (Bower, 2016).

PROCESS

To address the needs of elementary PSTs to continue serving their learners, we emulated a design-based methodological approach (Sandoval & Bell, 2004). This approach is situated in the educational context of William & Mary's elementary teacher preparation program and intends to test strategies in an effort to build theory and practice that can evolve over time (Anderson & Shattuck, 2012; Sandoval & Bell, 2004). In this case, we used principles of equity in online teaching and tutoring to identify problems of practice and potential solutions (Repetto et al., 2010). Through an initial Zoom meeting between the Director of Teacher Education (author) and a representative group of elementary PSTs, it was decided that PSTs would implement a Virtual Tutoring Program (VTP) in which they would provide one-on-one weekly support to 3-5 elementary students. Preservice teachers recommended using technology to tutor virtually, if possible, or tutoring by phone if technology was unavailable. Through this initial discussion of a VTP, three problems of practice were identified: first, how to specifically target disadvantaged students who lacked access to technology or at-home support to engage with the program; second, how to quickly foster trusting relationships with families and identify the specific needs of the students; and third, how to ensure that PSTs were learning from the experience and refining their teaching skills (NSQ, 2019).

As a solution, the Director of Teacher Education reached out to a lead teacher at Hope Elementary School (pseudonym) as a potential partner. Over 70% of students from Hope receive free or reduced lunch and are students of color, and Hope has been a consistent site for our teacher candidates to perform practical field-based internships for over a decade. Additionally, we recognized the acute challenges facing Hope's students in terms of equity and access to technology in the development of our rapid design-based strategy. In an effort to address our first problem of practice, teachers agreed to personally contact families of students who would most benefit from the additional support being offered by the VTP, including those in non-English speaking households and whose families were still working during this time, to gauge interest and explain the program.

Then, we matched PSTs with teacher-recommended elementary students from Hope. Using a standardized Google Form created by the PSTs (https://bit.ly/StudentIdentification) to guide the initial phone conversations, PSTs called families to learn more about the elementary students and their academic needs. This form, designed to address our second problem of practice, included questions about the family's technology resources and

internet access, preferred communication methods, any siblings who might benefit from services, and content areas of focus. The intent of this protocol was to quickly identify the students' needs and bring about a successful first conversation, which was critical in developing a trusting relationship with the families and building the confidence of preservice teachers to work with students in an unfamiliar manner (Repetto et al., 2010).

In respect to our third practical challenge of ensuring PSTs learned and developed their expertise, the VTP offered PSTs opportunities to teach elementary learners, complete course assignments, and reflect upon their practice. The Director of Teacher Education worked with teacher educators to reframe course assignments to include teaching opportunities with elementary learners within the context of the VTP, such as formatively assessing student progress online to guide future instruction (Brown et al., 2016; Young & Bruce, 2011). As reflective growth is a hallmark of teacher preparation (Davis, 2006), the candidates documented and reflected on their experiences by responding to specific prompts in a Virtual Tutoring Log kept in Google Sheets (https://bit.ly/VTPreflection). Reflective online journaling has been found to support PSTs' ability to self-assess and improve their teaching practices (Gikandi, 2013). Additionally, reflective dialogue occurred between teacher educators and PSTs, who met weekly by phone or in a virtual meeting, to discuss outcomes of the tutoring experience and navigate nuanced challenges related to students or academic content. PSTs also shared their experiences with peers and instructors during their regular online course sessions to refine plans and receive support in delivering online instruction. This supportive network provided novice online tutors with immediate and necessary feedback to address challenges that they faced in the VTP (Kennedy & Ferdig, 2018).

RESULTS

Thus far, PSTs have offered weekly instructional support to 130 elementary-aged students through a variety of means, including designing lessons to challenge students who are at or above grade level, assisting with learning packets provided by the division, and providing remediation in math and reading to struggling learners. This information has been provided to the state Department of Education to use in determining candidates' readiness to be licensed teachers. Their Virtual Tutoring Logs, which were kept for the purpose of self-reflection and documenting successes and challenges within the VTP, were shared with teacher educators in the elementary edu-

cation program. For teacher educators, PSTs' reflections supplied evidence that PSTs had positive professional growth outcomes. For example, the following reflection from one PST in the Virtual Tutoring Log supported evidence of growth in pedagogical content knowledge:

> Drawing quick sketches to go along with vocabulary words was helpful in making the abstract terms more concrete, and Sophie (pseudonym) and I also created hand motions to go along with each of the different types of [geological] plate boundaries. I realize that reading over FaceTime is not the smoothest experience, so I decided to alternate pages in reading the book with Sophie in order to make her a little more comfortable with the unusual format. Another strategy that worked particularly well was asking Sophie to teach the science content back to me after we had learned it together.

As called for in design-based methods (Sandoval & Bell, 2004), this served as a preliminary evaluation of the VTP as well as a formative assessment for teacher educators to virtually provide "just-in-time" instruction to support PSTs in the new tutoring environment (Novak & Beatty, 2016). In turn, teacher educators supported PSTs in identifying research-based online resources and distance strategies that could facilitate the design of engaging lessons, and support elementary learners to draw relationships, find visuals, and create memorable analogies that could connect them to academic content (Young & Bruce, 2011).

IMPLICATIONS AND FUTURE RESEARCH

In summary, we identify three lessons learned through the rapid design and initial implementation and analysis of the VTP, which have implications for the future practice of teacher educators. First, the early successes of this program would not have been possible without the long-term relationships and trust built between teacher educators and local teachers and the commitment to equity by the preservice teacher advocates who served students in this program. It is critical for teacher educators to foster a mindset of being a social justice advocate and model how to understand the needs of at-risk learners in online instructional design and delivery (Kier & Chen, 2019; Vasquez & Straub, 2012). Second, PSTs exemplified flexibility in practice by designing instruction around the families' schedules, providing support

over the phone when technology was unavailable, differentiating instruction 'on the fly,' and providing services for siblings and additional recommended students. DiPietro et al. (2008) emphasize the importance of flexibility in scheduling, design, and teaching online, and push us to consider how we might purposefully model and assess this disposition in future coursework and practical experiences for PSTs. Finally, the VTP showed promise for providing PSTs opportunities to use technology to supplement their teacher experiences and continue to grow as reflective practitioners. Design-based implementation and research of online tutoring supports the continued refinement of practice (Anderson & Shattuck, 2012). As we move forward with uncertainty about how K-12 schools and institutions of higher education will safely serve students again, we need to embrace the possibilities afforded to teacher educators for utilizing online opportunities to supplement the field experiences of PSTs. We believe that by including PSTs in the design and implementation of strategies to serve students most in need, we can support the centralization of equity in online instruction.

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